WHAT IS CLAIMED IS:

1. A reaction product comprising at least

a) acrylic acid or methacrylic acid or a mixture of acrylic or methacrylic acid and

b) a (meth)acrylic ester of substituted or unsubstituted phenol, C_1-C_8-hydroxyalkylbenzene or C_1-C_8-hydroxyalkoxybenzene and methyl (meth)acrylate in the molar ratio of from 5:95 to 100:0,

5-90% of the acrylic or methacrylic acid units having reacted with a glycidylvinyl compound.

2. A reaction product according to claim 1, wherein component (a) is methacrylic acid.

3. A reaction product according to claim 1, wherein the (meth)acrylic ester of component (b) is benzyl methacrylate.

4. A reaction product according to claim 1, wherein the glycidylvinyl compound is glycidyl methacrylate.

5. A reaction product according to claim 1, wherein the molar ratio of component a) to component b) is from 85:15 to 15:85.

6. A reaction product according to claim 1, wherein the molecular weight of the reaction product is 10 000-120 000 g/mol.

7. A reaction product according to claim 1, wherein the molecular weight of the reaction product is 20 000-90 000 g/mol.

8. A reaction product according to claim 1, which has an acid number of 0.4-5.0 mol/kg, referred to the reaction product.

9. A photopolymerizable composition, substantially comprising
   i) a reaction product according to claim 1,
   ii) a monomeric or oligomeric acrylate having at least two ethylenically unsaturated, terminal groups,
   iii) a polymerization initiator or initiator system which produces free radicals, cations or anions and can be activated by actinic radiation and,
   iv) if desired, an organic or inorganic filler.

10. A photopolymerizable composition, substantially comprising
   i) a reaction product according to claim 1,
   ii) if desired, a monomeric or oligomeric acrylate having at least two ethylenically unsaturated, terminal groups,
   iii) a polymerization initiator or initiator system which produces free radicals, cations or anions and can be activated by actinic radiation,
   iv) if desired, an organic or inorganic filler,
   v) a thermal polymerization inhibitor and
   vi) a solvent or solvent system.

11. A photopolymerizable composition, substantially comprising
   i) 15-70% by weight of the reaction product according to claim 1,
   ii) 0-30% by weight of monomeric or oligomeric acrylate having at least two ethylenically unsaturated, terminal groups,
   iii) 0.1-15% by weight of a polymerization initiator or initiator system which produces free radicals, cations or anions and can be activated by actinic radiation,
   iv) 0-60% by weight of an organic or inorganic filler,
   v) 0.01-0.5% by weight of a thermal polymerization inhibitor and
   vi) 20-80% by weight of a solvent or solvent system,

the percentages of the components being based on the total weight, with the proviso that the sum of the percentages by weight is 100.

12. A process for producing an etch resist image or solder resist image, comprising the process steps:
    I. Application of a photopolymerizable composition according to claim 10 to a substrate;
    II. removal of the solvent from the applied composition with formation of a film of the photopolymerizable composition on the substrate;
    III. if desired, exposure of the coated substrate to actinic radiation;
    IV. if desired, removal of the unexposed parts of the coating with the aid of an alkaline-aqueous or organic solvent with baring of the substrate; and
    V. if desired, thermal curing and, if desired, UV curing of the coating remaining on the substrate.

13. A process according to claim 12, wherein the exposure (III) is effected with the aid of a photomask or directly by means of a laser.

14. A process for producing an etch resist image or solder resist image, comprising the process steps:
    I. Application of the photopolymerizable composition according to claim 10 to a substrate by means of an inkjet method;
    II. removal of the solvent from the applied composition with formation of a dried photopolymerizable composition on the substrate;
    III. if desired, uniform exposure of the coated or structured substrate to actinic radiation; and
    IV. if desired, thermal curing and, if desired, UV curing of the coating remaining on the substrate.

15. A photopolymerizable element comprising a substrate which carries a photopolymerizable layer, substantially comprising

A) 25-85% by weight of the reaction product according to claim 1,
B) 5-40% by weight of monomeric or oligomeric acrylate having at least two ethylenically unsaturated, terminal groups;
C) 1-25% by weight of an addition polymerization initiator or initiator system which produces free radicals, cations or anions and can be activated by actinic radiation;
D) 0-60% by weight of an organic or inorganic filler and
E) 0.025-1.0% by weight of a thermal polymerization inhibitor;

the percentages of the components being based on the total weight, with the proviso that the sum of the percentages by weight is 100,
having a thickness of 0.1-400 µm.

16. A photopolymerizable element according to claim 15, wherein the thickness of the photopolymerizable layer is 3-50 µm.